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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,449	08/01/2006	Robert A. Dane	SOLAR I	9828
7590 12/19/2008				
John H Thomas 536 Granite Avenue Richmond, VA 23226				
EXAMINER				
SOTELO, JESUS D				
ART UNIT		PAPER NUMBER		
3617				
MAIL DATE		DELIVERY MODE		
12/19/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/565,449

**Applicant(s)**

DANE ET AL.

**Examiner**

JESUS D. SOTELO

**Art Unit**

3617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 10, 11, 14, 17, 20 and 22 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8, 9, 12, 13, 15, 16, 18, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-22 are in the application.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7, 10-11, 14, 17, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuo et al (EP 903,288) in view of Meindl (1,049,856) and Sebald 4,102,291).

Ikuo et al discloses an unmanned vehicle generally as claimed, except for the specific use of hybrid propulsion means. Meindl discloses a semi submersible vehicle and teaches providing the same with hybrid propulsion means including energy collectors 25 and energy stores 18 adapted to utilize at least solar energy and wind energy (sails 11). Sebald discloses a propulsion means for a sailboat and teaches using a propeller to drive a generator to collect energy. In view of these disclosures, it would have been obvious to one having ordinary skill in the art to provide the vehicle of Ikuo with hybrid propulsion means including solar cells and wind power means (sails) generally as taught by Meindl and further to provide the propulsion means with a generator driven by a propeller to collect energy when the boat is being driven by the sails, generally as taught by Sebald. The use of hybrid propulsion means as taught by Meindl and Sebald are well known in the art and their application into any particular vessel is deemed to have been an obvious matter of design choice to one having ordinary skill in the art.

***Allowable Subject Matter***

4. Claims 5, 6, 8, 9, 12, 13, 15, 16, 18, 19, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-4, 7, 10, 11, 14, 17, 20, and 22 have been considered but are moot in view of the new ground(s) of rejection.

6. The Sebald reference teaches the use of the current power to generate an electrical charge to charge electrical storing devices.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESUS D. SOTELO whose telephone number is 571-272-6686. The examiner can normally be reached on Mon. - Fri. 7:00 AM -3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samuel J. Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JESUS D. SOTELO/  
Primary Examiner, Art Unit 3617

19 December 2008